

Modification of the Dimensions of Copper-Zinc Alloy Plates Under Cyclic Thermal Treatment. 20-1-19/42

SUBMITTED: September 6, 1957

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Card 3/3

GOLOVANOV, N.G.; ~~BROVCHINSKIY, I.V.~~

Extraction of mineral wax and of mineral tars (bitumens) from brown coal by means of butyl alcohol. Ukr.khim.zhur.17 no.1:86-92 '51.  
(MLRA 9:9)

1.Ukrainskiy nauchno-issledovatel'skiy institut topliva.  
(Ozocerite) (Bitumen) (Lignite)

BROYCHINSKIY, I.V.

Journal of Applied Chemistry  
June 1954  
Fuel and Fuel Products

2  
Bitumens from brown coals and their future exploitation. G. Golovanov and I. V. Broychinskii (*Ukr. Khim. Zhur.*, 1952, 18, 534-539).—The variation in the composition of bitumens with the solvent used (dichloroethane, benzene, and ethanol) and method of extraction is studied, and the possibility of obtaining ion-exchange resins from them is indicated. Their wax content is low.  
R. C. MURRAY.

10/27/54  
8840

BROVCHINSKIY, I. V.

USSR/Geology - Coal

Sep 53

"Brown Coal (Lignite) and Its Utilization," N. G. Golovanov, Cand Tech Sci, and I. V. Brovchinskiy, Ukrainian Sci-Res Inst of Local and Fuel Industry

Priroda, No 9, pp 88-90

State that more than 200 billion tons of lignite exist in the Soviet Union, mainly in eastern part of USSR Central Asia (Serlyukta, Angren), southern Urals (near Chelyabinsk). Brown coal is used for

276T53

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fuel and as a source of raw material for plastics, synthetic liquid fuel, lubricating oil, etc. Remark that Z. F. Chukanov and A. B. Chernyshev developed a method of semicoking brown coal.

БРОВЧИНСКИЙ, И. В.

USSR/Minerals

Card 1/1

Authors : Golovanov, N. G., and Brovchinskiy, I. V.

Title : Brown coal bitumen

Periodical : Priroda, 5, 97 - 99, May 1954

Abstract : Bitumen, extracted with benzene from brown coal of the Aleksandriysk mine, (Ukr-SSR) represents a black brown brittle mass with shining surface and conchoidal fracture. Softening point of bitumen is about 90°. Specific weight in melted state, at a temperature of 100° - 0.89, at an ordinary temperature - about 1. Brown coal bitumen, in spite of its dark color, is similar to carnauba wax (Brazil wax). The elementary composition of crude bitumen, i.e., not subjected to deresination and purification is: 77.4% carbon, 11.2% hydrogen and 11.4% oxygen. Brown coal bitumen can be divided into two component parts: wax and tarry.

Institution : Ukrainian Scientific-Research Institute of Fuel Industry, Kiev

Submitted : ....

BROVCHINSKIY, I. V.

USSR/Chemistry - Waxes

Card 1/1 : Pub. 86 - 14/36

Authors : Golovanov, N. G.; Brovchinskiy, I. V.; and Dem'yanova, Z. T.

Title : Waxes and their application

Periodical : Priroda 43/8, 92-95, Aug 1954

Abstract : Waxes consist of C, H, and O and belong to the same group as fats and oils, but are to be distinguished from them by the absence of complex esters. The roll that waxes and fats play in the physiology of animals and insects is discussed. The sources of wax are also dealt with; namely, insects, plants and minerals, as well as the uses to which they are put. Six Russian references (1871-1928). Illustrations; drawings.

Institution : ...

Submitted : ...

БРОВЧИНСКИЙ, И.В.

GOLOVANOV, N.G.; BROVCHINSKIY, I.V.

Cardboard from ditch reed, cattail, and bulrush. Priroda 44  
no.8:89-91 Ag '55. (MIRA 8:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut mestnoy topliv-  
noy promyshlennosti, Kiev  
(Paper board)

GOLOVANOV, N.G., kandidat tekhnicheskikh nauk; BROVCHINSKIY, I.V.,

Wax from pine needles. Priroda 45 no.8:115 Ag '56. (MLRA 9:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut mestnoy i toplivnoy  
promyshlennosti, Kiev.  
(Pine)



*Brovchinskiy*  
GOLOVANOV, N.G., kand. tekhn nauk; BROVCHINSKIY, I.V., inzh.

Wax from coal. Nauka i zhizn' 24 no.10:52 0 '57.  
(Waxes) (Lignite)

(MLRA 10:11)

AUTHOR: Brovchinskiy, I.V. SOV-26-58-3-35/51

TITLE: Plastics from Feather and Down Wastes (Plastmassy iz otkhodov pera i pukha)

PERIODICAL: Priroda, 1958, Nr 3, pp 112-113 (USSR)

ABSTRACT: The feather and down processing plants in Kiyev, Odessa, L'vov, Chernovtsy, Moscow, Zaraysk, Leningrad and Sverdlovsk have an annual waste of over 2,000 tons. Due to the expansion of the enterprises, the waste amount is ever increasing. Research of the Ukrainskiy nauchno-issledovatel'skiy institut mestnoy i toplivnoy promyshlennosti-Kiyev (Ukrainian Scientific Research Institute of the Local and Fuel Industry-Kiyev) showed that this waste can be processed into plastics by way of an uncomplicated method. The keratin contained in feather waste and quill chips is very resistant against the action of chemical substances among all albumins. From these wastes, various pressed powders can be obtained which are prepared for further processing by the addition of urea-formaldehyde resin. Due to the transparency of the quill substances, all color shades can easily be given to the powder. In addition to all kinds of larger-sized products, small fragments can also be produced which are well suited for mosaics.

Card 1/2

Plastics from Feather and Down Wastes

SOV-26-58-3-35/51

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut mestnoy i toplivnoy promyshlennosti-Kiyev (Ukrainian Scientific Research Institute of the Local and Fuel Industry-Kiyev)

1. Plastics--Sources    2. Albremins--Properties

Card 2/2

BROVCHINSKIY, I., inzh. (Kiyev)

Process the waste of feather and down factories. From.koop. 12  
no.12:28 D '58. (MIRA 12:2)  
(Factory and trade waste) (Feathers)

POTIYEVSKAYA, S.A. [Potilevs'ka, S.A.], inzh.; BROVCHINSKIY, I.V.  
[Brovchyns'kyi, I.V.], inzh.

From sunflower seed husks. Nauka i zhyttia 9 no.1:27 Ja '59.  
(Sunflower seed) (MIRA 12:1)  
(Furaldehyde)

BROVCHUK, E.P., elektrik

Increasing the life of the rotor rings of a 1500 kw. turbogenerators.  
Energetik 12 no.6:16 Je '64. (MIRA 17:9)

BROVDIY, V.M.

Characteristics of the structure of the ovipositors of leaf beetles  
of the genus *Galerucella* Crotch. (Coleoptera, Chrysomelidae).  
Dop. AN URSSR no. 12:1638-1641 '64. (MIRA 18:1)

1. Institut zoologii AN UkrSSR. Predstavleno akademikom AN  
UkrSSR A.P.Markevichem [Markevych, O.P.].

BROVDIY, V.M.

Study of the ecology of leaf beetles of the genus *Galerucella*  
Crotch (Coleoptera, Chrysomelidae) under conditions of the  
forest steppe of the Ukraine. Dop. AN URSR no.9:1245-1248 '64.  
(MIRA 17:11)

1. Institut zoologii AN UkrSSR. Predstavleno akademikom AN  
UkrSSR V.G. Kas'yanenko [Kas'ianenko, V.H.].



BROVDY, V.M.

leaf beetles of the genus *Lochmaea* W.S. in the central Dnieper Valley. Dop. AN URSR no.9:1244-1247 '65.

(MLRA 18:9)

1. Institut zoologii AN UkrSSR.

S/065/62/000/011/001/006  
E075/E436

AUTHORS: Pal'chikov, G.F., Mezhlumova, A.I., Krichko, A.A.,  
Kaganer, G.S., Stepuro, S.I., Brovenko, A.V.

TITLE: Extraction of aromatic hydrocarbons from middle  
petroleum fractions and catalytic gas oils with  
aqueous pyridine

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.11, 1962,  
19-25

TEXT: Following the laboratory work reported previously  
(Khim. i tekhnol. topliv i masel, no.4, 1961) trial batches of  
aromatic extracts (400 to 500 kg) were obtained on a pilot plant  
scale from a catalytic gas oil and kerosene - gas oil fractions  
from Anastasiyevka crude. The extraction was carried out using  
aqueous solution of technical pyridine (boiling point range  
114 to 134°C). The feed saturated with pyridine vapour meets  
the pyridine solution in the extractor. Countercurrent  
extraction takes place, the raffinate and the extract solutions  
leaving the opposite ends of the extractor. For the extraction  
of the kerosene - gas oil fraction the raffinate contained 30% by  
Card 1/2 ✓

S/065/62/000/011/001/006  
E075/E436

Extraction of aromatic ...

volume of pyridine (water free) and the extract solution - 80.7% pyridine, 10% water and 9.3% extract. The extraction was conducted at 15°C. The extract constituted 32 to 35% of the feed and contained about 80% aromatic hydrocarbons. The extract with 50% of the aromatic hydrocarbons was obtained with the yield of 70%. The extracts were subjected to high temperature hydrogenation. For the extract from the catalytic gas oils the yield of naphthalene obtained by the hydrogenation was 30%. For the kerosene - gas oil fraction about 20% yield of naphthalene was obtained and 40% of a solvent containing 95% of aromatic hydrocarbons. There are 1 figure and 7 tables.

ASSOCIATION: SNKh Checheno-Ingushsk. ASSR

Card 2/2

BROVENKO, F., kand. sel'skokhozyaystvennykh nauk.

"Library of the collective farm agronomist." Reviewed by F. Brovenko.  
Nauka i pered.op. v sel'khoz. 7 no.12:70-72 D '57. (MIRA 11:1)  
(Agriculture--Book reviews)

COUNTRY : USSR  
CATEGORY : Cultivated Plants. Fodder Grasses and Root Crops. M  
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 11003  
AUTHOR : Brovenko, F. M.  
INST. : Ukrainian Academy of Agricultural Sciences.  
TITLE : The Influence of the Sowing Rates and Methods on the Yield and Quality of Fodder Lupine.  
ORIG. PUB. : Visnik sil'skogospod. nauki. Ukr. akad. sil'skogospod. nauk, 1958, No. 3, 19-23  
ABSTRACT : No abstract

CARD: 1/1

-77-

ZINICH, Vasilii Nikolayevich [Zynych, V.M.]. Prinimal uchastiye  
KRIVOKOBYL'SKIY, I.F. [Kryvokobyl's'kyi, I.F.]; BROVENKO,  
F.M., kand. sel'khoz. nauk, red.; ONOPRIYENKO, M.M., red.;  
POTOTSKAYA, L.A. [Potots'ka, L.A.], tekhn. red.

[Business accounting combined with operational control  
within individual production units; based on the example  
of the "Zoria komunizmu" Collective Farm, Kosov District,  
Stanislav Province] Vnutrihospodars'kyi rozrakhunok z  
operatyvnym kontrolem; na prykladi kolhospu "Zoria komu-  
nizmu," Kosivs'koho raionu, Stanislavs'koi oblasti. Kyiv,  
Vyd-vo UASHN, 1962. 58 p. (MIRA 16:5)  
(Collective farms—Finance)

BROVENKO, V.

Determining the optical center of photographs taken with a  
NAFA camera. Biul.sta.opt.nabl.isk.sput.Zem. no.25:21-22 '62.  
(MIRA 15:7)

1. Nikolayevskoye otdeleniye Glavnoy astronomicheskoy observatorii  
AN SSSR.

(Astronomical photography)

BROVENKO, V.Ya.; KALININA, O.F.; MARKINA, O.T.; PETROV, G.M.

Right ascensions of the sun, the moon, lunar crater Moesting A and  
major planets from the observations at the Nikolaev Observatory  
in 1960. Izv.GAO 23 no.1:65-73 '62. (MIRA 16:12)



BROVENKO, V.Ya.; KALININA, O.F.; MARKINA, O.T.; PETROV, G.M.; FEDOROVA, R.T.

Right ascensions of bodies of the solar system determined from  
observations with the Freiberg-Kondrat'ev transit circle in Nikolayev  
in 1961. Izv. GAO 23 no.4:82-90 '64. (MIRA 17:9)

BROVENKO, V.Ya.; KALIKHEVICH, F.F.

Results of the investigation of the KIM-3 no.600001 instrument.  
Izv. GAO 23 no.4:167-170 '64. (MIRA 17:9)

BROVENKO, V.Ya.

Results of photographic observations of Uranus and Neptune in  
Nikolayev in 1961-1962. Izv. GAO 23 no.4:171-173 '64.  
(MIRA 17:9)

L 06934-67 F33-2/EWT(1) IJP(c) JGS/GW

ACC NR: AR6025338

SOURCE CODE: UR/0269/66/000/004/0018/0018

AUTHOR: Brovenko, V. Ya.

TITLE: Photographic observations of large planets on a zonal astrograph in Nikolaev

SOURCE: Ref. zh. Astronomiya, Abs. 4.51.136

REF SOURCE: Tr. 16-y Astrometr. konfer. SSSR, 1963, M.-L. Nauka, 1965, 79-80

TOPIC TAGS: ~~astronomy~~, planetary <sup>photography</sup> ~~astronomy~~, ~~primary~~ astrometry, zonal astrograph

ABSTRACT: The results of photographic determination of outer planets position (O-C,  $\epsilon_x$ ,  $\epsilon_y$ ), except Pluto, with the zonal astrograph in 1961 and 1962 are given. For the attenuation of bright planets glare, neutral filters usually were used; occasionally, a light metal plate in front of the focal plane, exposing the planet for 1-2 seconds was utilized. It is noted that both methods guarantee the same precision: the RMS error of position on  $\alpha$  does not exceed  $\pm 0.046$ ; on  $\delta$ ,  $\pm 0.42$ . [Translation of abstract].

SUB CODE: 03, 14

Card 1/1 nst

UDC 521.61:523.43/48

*BROVER 111*

137-1958-3-5057

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 85 (USSR)

AUTHORS: Eduardov, M. S., Angervaks, A. I., Gil'denblat, S. N., Brover, A. V.

TITLE: Adaptation of Hot Seamless Forging in Closed Dies at Leningrad Plants (Opyt leningradskikh zavodov po vnedreniyu bezobloynoy goryachey shtampovki v zakrytykh shtampakh)

PERIODICAL: V sb.: Kuznechno-shtampovochn. proiz-vo. Leningrad, Lenizdat, 1957, pp 96-111

ABSTRACT: The progressive significance of seamless die-forging (SF) of steels and nonferrous alloys is demonstrated by citing instances in which this method was commercially adapted in the production of forgings (F) shaped as bodies of revolution: lids, plate-like valve discs, syringe tips, as well as F's with an elongated form: coupling pins, and blanks for screws. In order to extend successfully the range of application of the SF method, the following factors must be observed: a) the design of F's must be improved so as to ensure proper filling in of the dies with the material undergoing deformation; b) the blanks (B) must be pre-shaped before placement into the calibers of the seamless dies;

Card 1/2

137-1958-3-5057

Adaptation of Hot Seamless Forging in Closed Dies (cont.)

c) precise and clean cutting of B's must be ensured by employing a multi-strip electrolytic-mechanical cutting stand capable of cutting several B's simultaneously; d) contact and induction heating must be adapted in place of the flame-heating method; e) dies must be so designed as to guide the flow of excess metal; f) high-powered crankshaft punch presses must be constructed so as to permit disassembly of dies in two different planes, and be equipped with removal devices and hydraulic safety devices, which, in conjunction with a built-in force-measuring apparatus, would prevent overload conditions. It is most important that the greatest number of production personnel become acquainted with the method of SF, its advantages, and peculiarities.

P. S.

Card 2/2

BROVER, A.V.; VYAZ'MENSKIY, A.S.

Drop forging and sizing of form steel castings. Kuz.-shtan.proizv.  
1 no.7:5 J1 '59. (MIRA 12:10)  
(Forging) (Steel castings)

BROVER, B.I.

Significance and comparative evaluation of Kavetski's and Pokrovskaia-Makarova's indices in trophic ulcers. Klin.med., Moskva 29 no.3:89-90  
Mar 51. (CLML 20:7)

1. Of the Propedeutic Surgical Clinic (Head--Prof. S.A. Bakdal), Odessa Medical Institute, Odessa.



EROVER, B. I.

Data on the problem of healing of ulcerated scars and trophic  
ulcers by the method of free plastic surgery of the skin.  
Vest khir. Grekova, Leningr. 71 no. 6:19-22 1951.(CML 21:3)

1. Of the Propedeutic Surgical Clinic (Head -- Prof. S. A.  
Bakka), Odessa Medical Institute (Director -- A. N. Motnenko).

BROVER, I.

I.V.Stalin on commodity production and the law of value under  
socialism. Vest.AN Kazakh SSR 10 no.2:17-32 P '53. (MLRA 7:4)  
(Industry) (Value)

USSR/ Miscellaneous - Economics

Card 1/1      Pub. 123 - 1/17

Authors      : Brover, I., Dr. of Econ., Prof., Kaz. State University

Title        : Selling as a basic form of distribution of consumer goods under socialism

Periodical   : Vest. AN Kaz. SSR 11, 3-15, Nov 1954

Abstract     : A comparative analysis of economic systems in capitalistic and socialistic (communistic) societies is given. The analysis is made in the light of the Marx theory which considers selling as a means of distributing consumer goods to satisfy the needs of people, but not to enrich individuals as is done in capitalistic countries.

Institution : .....

Submitted   : .....

BROVER, I. (Alma-Ata).

G.V.Flekhanov's economic views. Vop.ekon.no.12:17-31 D '56. (MLRA 10:2)  
(Flekhanov, Georgii Valentinovich, 1856-1918)

BROVER, I.M.

[Studies on the development of heavy industry in the U.S.S.R.]  
Ocherki razvitiia tiazheloi promyshlennosti SSSR. Alma-Ata,  
Izd-vo AN KazakhSSR, 1954. 268 p. (MLRA 7:11D)

brover, I.M., prof., red.; YEROFEYEV, N.A., dots., red.; SPIVAK, F.L.,  
red.; IL'YASHENKO, L.V., red.; ZLOBIN, M.V., tekhn.red.

[Kazakhstan industry during the past 40 years; a collection of  
articles] Promyshlennost' Kazakhstana za 40 let; sbornik statei  
pod obshchei red. I.M.Brovera i N.A.Erofeeva. Alma-Ata, Kazakhskoe  
gos. izd-vo, 1957. 149 p. (MIRA 11:3)  
(Kazakhstan--Industries)

BROVER, I.M.

Problems concerning the monetary system during the period of  
the transition from socialism to communism. Izv.AN Kazakh.SSR.  
Ser.ekon., filos.i prava no.2:88-97 '59.

(MIRA 13:4)

(Money)

BROVER, Izrail' Moiseyevich, prof., doktor ekonom. nauk; BOBLOV, Karl Illarionovich, kand. ekonom.nauk, dots.; BONISOV, Ievgeniy Filipovich, kand. ekonom.nauk; MATSUK, R.V., red.; GRIGORCHUK, L.A., tekhn. red.

[A reader on economics; socialist production methods] Khrestomatiia po politicheskoi ekonomii; sotsialisticheskii sposob proizvodstva. Moskva, Gos.izd-vo "Vysshiaia shkola," 1961. 412 p.  
(MIRA 14:12)

(Economics)



BORISOV, Yevgeniy Filippovich; BROVER, Izrail' Moiseyevich, prof.;  
LARINA, Raisa Yefimovna; Madyanov, Aleksandr Stepanovich;  
SAMOYLENKO, Ivan Ivanovich; CHERNYSHEV, Nikolay Tikhonovich

[Reader in economics; precommunist means of production] Khrestomatia po politicheskoi ekonomii; dokommunisticheskie sposoby proizvodstva. Pod red. I.M. Brovera. Moskva, Gos. izd-vo "Vysshaya shkola," 1963. 378 p. (MIRA 16:7)

1. Prepodavately kafedry politicheskoy ekonomii Volgogradskogo pedagogicheskogo instituta (for Brover, Larina, Madyanov, Samoylenko, Chernyshev). 2. Vsesoyuznyy zaochnyy finansovo-ekonomicheskii institut (for Borisov).  
(Economics)

BROVER, Izrail' Moiseyevich, red.

[Economics of industrial enterprises; articles] Voprosy  
ekonomiki promyshlennykh predpriatii; sbornik statei.  
Volgograd, Volgogradskoe knizhnoe izd-vo, 1962. 162 p.  
(MIRA 17:9)

BROVER, Yu. (UB5LM)

Shortwave section. Radio no.6:37-38 Je '60.  
(Kharkov--Radio, Shortwave)

(MIRA 13:7)

BROVERMAN, Feokist Georgiyevich; MARTYNOV, Nikolay Yakovlevich;  
SHAKHOVA, L.I., red.; PEREDERIY, S.P., tekhn. red.

[Training electricians to service equipment in mines for  
automatic control, CTC, and communication] Podgotovka shakht-  
nykh elektroslesarei po obsluzhivaniyu sredstv avtomatizatsii,  
STsB i svyazi. Moskva, Proftekhizdat, 1962. 91 p.  
(MIRA 16:4)

1. Direktor tekhnicheskogo uchilishcha No.15 goroda Gorlovki  
(for Martynov). 2. Zamestitel' direktora po uchebno-  
proizvodstvennoy rabote tekhnicheskogo uchilishcha No.15  
goroda Gorlovki (for Broverman).  
(Mine railroads--Signaling--Centralized traffic control)  
(Mine communications) (Automatic control)

BROVERMAN, G.B., inzh.

Using all-purpose overhead cranes in erecting television towers.  
Mont. stroit. konstr. no. 2/12:28-36 '59. (MIRA 14:2)

1. Proyektyny institut Promstal'konstruktsiya.  
(Television—Antennas) (Cranes, derrick, etc.)

BROVERMAN, G.B., inzh.

Erecting television antennas. Nov.tekh.mont.i spets.rab. v stroi.  
21 no.5:6-11 My '59. (MIRA 12:7)

1. Proyektmyy institut Promstal'konstruktsiya.  
(Television--Antennas)

BROVERMAN, G.V., inzh.

Efficient methods for erecting precast reinforced concrete bridge  
spans. Mekh.trud.rab. 11 no.6:38-41 Je '57. (MIRA 10:11)  
(Bridges, Concrete) (Cranes, derricks, etc.)

BROVERMAN, J.

Urgent matters. 16 no.1:17-18 Ja '59.  
(Aeronautics, Commercial)

(MIRA 12:3)



*E. P. S. T. F. M. A. V.*

117-58-7-9/25

AUTHORS: Brovermann, M.V., Fayershtern, N.D., Levin, S.M., Engineers  
and Alekseyev, N.A.

TITLE: **Simplification and Improvement of Factory Records**  
(Sokrashcheniye i sovershenstvovaniye vnutrizavodskoy doku-  
mentsatsii).

PERIODICAL: Mashinostroitel', 1958, Nr 7, pp 25-29 (USSR)

ABSTRACT: The article deals with the principles and practical results of  
an internal documentation reform carried out by a team in the  
Nevskiy zavod imeni Lenina (Nevskiy Plant imeni Lenin) producing  
steam and gas turbines, air blowers and other machines by small  
lots or single units. The reform included the technical, as  
well as other documents, or documentation systems within the  
plant (planning, procurement, administration, accounting, etc.).  
One example of the reform is the "personnel account sheet" for  
single workers or teams, shown in p 27, introduced into all the  
plant's shops despite the different operations; it has replaced  
15 different work-record sheets used before. The reform reduced  
by 17% the total number of document forms and by 400,000 pieces

Card 1/2

Abridgement and Improvement of Factory Documentation

117-58-7-9/25

the yearly quantity of various documents, which corresponds to a yearly economy of 116,000 man-hours. Further reform of registering and accounting documents will additionally reduce the number of documents by about 650,000 pieces per year. The "Machine-Accounting Station" of the plant has three sets of analytic tabulating machines "T4-MI", and a staff of 21. It processes 200,000 perforated cards yearly. It is planned to increase the station and its work-scope to free designers and technologists from setting up materials and work "norms", material specifications for separate workpieces, summary material specifications for the year plan, for quarter plans, etc. There is one figure.

**1. Industrial engineering—Systems**

Card 2/2

BROVERMAN, Mikhail Vladimirovich; LEVIN, Semen Moiseyevich; FAYERSHTERN, Natan Davydovich; NEYMARK, M.M., inzh., red.; KUBNEVA, M.M., tekhn.red.

[Using computers in planning and organizing the production of standard parts; experience of Nevskii Machinery Plant] Primenenie schetnykh mashin v operativnom planirovanii i podgotovke proizvodstva normalizovannykh detalei; opyt Nevskogo mashinostroitel'nogo zavoda imeni V.I.Lenina. Leningrad, 1959. 21 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obman pervym opytom. Seriya: Organizatsiia i ekonomika proizvodstva, vyp.2).

(MIRA 13:4)

(Leningrad--Machinery industry)

PHASE I BOOK EXPLOITATION

SOV/3911

Broverman, Mikhail Vladimirovich

Tekhnologiya proizvodstva tsentrobeshnykh kompressornykh mashin  
(Methods of Manufacturing Centrifugal Compressors) Moscow, Mashgiz,  
1960. 223 p. 3,500 copies printed.

Reviewer: M. G. Sternin, Engineer; Ed.: Ya. A. Kachuriner, Engineer;  
Ed. of Publishing House: I. A. Borodulina; Tech. Ed.: P. S. Frankin;  
Managing Ed. for Literature on the Design and Operation of Machinery  
(Leningrad Division, Mashgiz): F. I. Fetisov, Engineer.

**PURPOSE:** This book is intended for technical personnel specializing  
in power-machinery construction. It can also be used by students  
of schools of higher education and tekhnikums.

**COVERAGE:** The book deals with the manufacture of centrifugal compressors,  
beginning with the mechanical processing of individual parts and  
concluding with testing, finishing, and packing. Special attention is  
given to production processes, equipment, accessories, and tools.  
Some suggestions are presented on safety techniques for specific  
operations. The author thanks I. B. Mitlin and I. I. Khankin, both  
Cará 1/5

Methods of Manufacturing Centrifugal Compressors

80V/3911

of the Nevskiy mashinostroitel'nyy zavod imeni V. I. Lenina  
 ([Leningrad] Nevskiy Machine-Building Plant imeni V. I. Lenin).  
 There are 9 references, all Soviet.

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Ch. I. Centrifugal Compressors	5
1. Operating principle; use	5
2. Types of compressors	9
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Card 2/5

BROVERMAN, T.B.

Mechanization of loading and unloading of metal constructions  
Biul. stroi. tekhn. 9 no.18, 1952

SVETOZAROVA, Ye.I., kand.tekhn.nauk; BROVICH, D.G., inzh.

The possibility of using wood-fiber blocks and particle boards  
as bearing elements. Sbor. nauch. trudov LISI no.34:171-176 '61.  
(MIRA 15:8)

(Wood waste)

KURILENKO, V.S. (Kiyev); BROVICHEVA, N.I. (Kiyev); GOR, S.G. (Kiyev)

Use of claspless prostheses. Probl.stom. 6:288-290 '62.  
(MIRA 16:3)

(DENTAL PROSTHESIS)



BROVIKOV, A.V., inzhener.

Efficient workers and innovators in the automotive transportation  
of freight in the capital. Gor.khoz.Mosk.30 no.12:32-35 D '56.  
(Moscow--Transportation, Automotive) (MLBA 10:2)

SOV/124-57-5-5587

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 69 (USSR)

AUTHOR: Brovikov, I. S.

TITLE: Statistical Characteristics of the Elements of Wind-generated Waves  
(Statisticheskiye kharakteristiki elementov vetrovykh voln)

PERIODICAL: Tr. Okeanogr. in-ta, 1954, Vol 26, pp 147-163

ABSTRACT: The statistical laws governing the distribution of the elements of wind-generated waves are investigated. The waves are considered to be the result of a disordered interference of a very large number of sinusoids with random periods and phases. The resulting oscillations are expressed in the form

$$U = \rho \cos(\omega_0 t - \theta)$$

where

$$\rho \cos \theta = \alpha = \sum_{i=1}^n a \cos(\omega_i t + \epsilon_i), \quad \rho \sin \theta = \beta = \sum_{i=1}^n a \sin(\omega_i t + \epsilon_i)$$

Card 1/2 The values of  $\omega_i$  and  $\epsilon_i$  are assumed to be random. It is proved

## Statistical Characteristics of the Elements of Wind-generated Waves SOV/124-57-5-5587

with the aid of the Lyapunov limiting-value theorem that the random values of  $\alpha$  and  $\beta$  are governed by the normal one-dimensional law of distribution. It is demonstrated on the basis of the hypothesis of the independence of the values of  $\alpha$  and  $\beta$  that the amplitude  $\rho$  of the resulting compound oscillation is governed by the two-dimensional normal law of distribution. This last deduction is further generalized to the case in which the interfering sinusoids possess different amplitudes. In view of the fact that the height of the wave is twice the amplitude, the deduction holds true for the height of the waves. Further, a hypothesis is introduced stating that the ratio between the height of a wave having a specified probability and the length of a wave having the same probability is a constant. It follows from here that the heights and the lengths of the waves are distributed according to the same law. Finally, by using well-known formulas of the wave theory linking the length of the wave with its period and the rate of propagation and applying the well-known procedures of the probability theory, the author finds the law of distribution of the wave periods and the phase velocities. It is found that the integral functions of distribution obtained theoretically agree very well with those from the wave recorder data.

Card 2/2

Yu. M. Krylov

124-57-1-562

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 70 (USSR)

AUTHOR: Brovikov, I.S.

TITLE: The Wind-driven Waviness in a Shallow Sea (Vetrovoye volneniye v melkovodnom more)

PERIODICAL: Tr. Okeanogr. in-ta, 1954, Nr 26, pp 164-189

ABSTRACT: A method for the calculation of the elements of wind waves in shallow water is expounded. The author begins with the equation of the energy balance in waves. It is assumed that the energy transfer from the wind consists of two parts: 1) the energy contained in the nonuniform distribution of the normal wind pressures along the wave profile, and 2) the energy exerted by the mean tangential wind stress. Formulas for these quantities in terms of the wave elements are obtained from concepts proposed earlier by Sverdrup and Munk. The energy lost by the waves during their propagation through the shallow basin is represented as the sum of three terms. The first term determines the energy loss attributable to the friction at the bottom encountered by a purely periodic motion of the bottom water; the second term applies to the progressive motion of

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124-57-1-562

The Wind-driven Waviness in a Shallow Sea

the wave formation; the third comprises the most important part of the losses, which is caused by the partial breaking of the waves. The breaking of waves is explained by a deformation of the wave caused by velocity differences between various points of the wave profile. It is assumed that the water mass shed from the wave crest during the process of breaking forms a counterflow near the beach. The energy equation derived for wind waves in shallow water contains two unknown functions, namely, the wave height and the wave length. A second equation is obtained by the author by introducing the hypothesis that the wind energy absorbed is proportional to the square of the wind velocity. Two questions are examined on the basis of the solutions provided by the abovederived equations: 1) the development of waves in a shallow sea of constant depth; 2) the deformation of waves originating in a deep sea during their approach toward a shore. Both problems are solved without regard to the statistical characteristics of the elements of wind waves in shallow water. Tables have been computed for the dimensions of wind waves for various wind velocities and for bodies of water 5, 10, 15 and 20 m deep. The application of the abovederived equation to the problem of the wave deformation close to shore afforded the following conclusions: a) if the wave length is less than a certain critical length, then both the wave length and the wave height will grow during an

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The Wind-driven Waviness in a Shallow Sea

124-57-1-562

approach toward shore; b) if the wave length of a wind wave exceeds that certain critical value, then the height and length of the waves will diminish with their approach toward shore.

Yu.M. Krylov

1. Water waves--Mathematical analysis

Card 3/3

SOV/124-58-7-7663

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 47 (USSR)

AUTHOR: Brovikov, I.S.

TITLE: On Calculating Wind-wave Elements in a Variable Wind (O raschete elementov vetrovykh voln pri peremennom vetre)

PERIODICAL: Tr. Gos. okeanogr. in-ta, 1957, Nr 38, pp 3-10

ABSTRACT: A method is propounded for calculating the wave height  $h$  in the presence of a variable wind velocity  $v$ . A solution is found for a closed system of two equations, one - the wave energy-balance equation, the other - the relationship between the steepness of a wave and its growth. As in his earlier writings, the author deems the amount of energy imparted to a wave by the wind to be proportional to the square of the wind velocity. The energy dissipation in the course of the wave motion is determined with the formula of the semiempirical theory of turbulence. The turbulent mixing length is assumed to be proportional to the wave length. Solving the two equations simultaneously yields an expression of the form

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$$h \frac{dh}{dt} = k_1 v^2 - k_2 h \sqrt{v} \quad (1)$$

SOV/124-58-7-7663

# On Calculating Wind-wave Elements in a Variable Wind

wherein  $k_1$  and  $k_2$  are numerical coefficients. A solution is found for the case in which  $v$  varies linearly; it is shown that, when the wind-velocity function  $v(t)$  is arbitrarily given, it should be expanded into a Taylor series, whereupon, taking only the first two terms of the series, one should treat the result obtained as if  $v$  varied linearly. In conclusion, the author sets forth briefly calculation procedures; these require that the initial values for wind velocity and wave height be given, also a forecast of the anticipated wind velocity at the end of  $t$  hours. Bibliography: 5 references.

B.Kh. Glukhovskiy

1. Ocean waves--Theory
2. Wind--Velocity
4. Mathematics--Applications

Card 2/2



3(9)

PHASE I BOOK EXPLOITATION

SOV/2546

Moscow. Gosudarstvennyy okeanograficheskiy institut

Trudy, vyp. 42 (Transactions of the State Institute of Oceanography, Nr 42) Moscow, Gidrometeoizdat, 1958. Errata slip inserted. 850 copies printed.

Scientific Eds.: V.A. Tsikunova and P.S. Lineykin; Eds.: A.D. Perlovskaya and V.I. Tarkhunova; Tech. Ed.: I.M. Zarkh.

PURPOSE: This collection of articles is intended for scientific workers, graduate students, and engineers working in the field of marine physics.

COVERAGE: This issue of the Institute's Transactions contains articles on the further development of the statistical theory of wind wave disturbance, the problem of wind currents in a stratified sea, and a simplified method of computing vertical temperature distribution in the sea during a period of cooling. No personalities are mentioned. References accompany each article.

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Transactions (Cont.)

SOV/2546

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Krylov, Yu.M. Statistical Theory and Computation of Wind Waves. Part II	3
Kineykin, P.S. The Effect of an Interface on Wind Currents in a Deep Sea	89
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AVAILABLE: Library of Congress

Card 2/2

MM/jb  
11-30-59

*BROVikov, I. S.*

AUTHORS: Brovikov, I. S., Krylov, Yu. M.

50-2-10/22

TITLE: Critical Analysis and Evaluation of L. F. Titov's Formulas for the Computation of Sea Wind Elements in Deep Sea  
(Kriticheskiy analiz i otsenka formul L. F. Titova dlya rascheta elementov morskikh vetrovykh voln globukogo morya).

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 2, pp. 37-41 (USSR)

ABSTRACT: The semi-empirical formulae by L. F. Titov for the computation of the elements of sea-wind wave motions make possible the determination of the height of the wave from the slope of the wave, the velocity of wind and its duration of effect. Such formulae were suggested already before Titov by Bergen and Andreyanov. Titov used the visual estimation of the slope of waves and of wind according to the catalogues of hydrometeorological observations made on ships in the Sea of Okhotsk during the navigation periods from 1928 to 1935. Besides, he utilized 45 plates of stereo-photographs of waves by means of which he changed from the estimation of the waves to the wave elements. As it is known already, the visual estimations of

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Critical Analysis and Evaluation of L. F. Titov's Formulas 50-2-10/22  
for the Computation of the Sea Wind Elements in Deep Sea

wind and especially of the slope of waves are most inaccurate and relative. Therefore, the relations obtained from these data, even in the case of a great number of observations, are unreliable and uncertain. Thus, the initial data cannot be acknowledged as useful for the computation formulae. The three different groups of observation data given here which were found by completely independent methods and in different geographical areas do not agree with the computations made by Titov. However, it can easily be found that these data agree well among each other. The used material exhaustively contains the elaborated data at present available of measurings by means of instruments of the sea-wind waves.

Finally it can be concluded that the formulae by Titov obtained according to observational data are of low quality and incomplete. They show errors in many cases and do not agree with the modern data of instrumental observations and with the empiric formulae. Therefore, the formulae by Titov

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Critical Analysis and Evaluation of L. F. Titov's Formulas 50-2-10/22  
for the Computation of the Sea Wind Elements in Deep Sea

must be regarded as outdated and presently not suited for practical application.  
There are 2 figures, 2 tables, and 7 references, 4 of which are Slavic.

AVAILABLE: Library of Congress

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~~BEVILKOV, I.S.~~

Deriving the generalized distribution function of wave heights  
on the surface of a heavy liquid. Trudy GOIN no.42:105-114  
'58. (MIRA 11:10)  
(Waves) (Distribution (Probability theory))

BROVIKOV, I.S.

Changes in the elements of waves entering shallow waters. Trudy  
GOIN no.5027-32 '60. (MIRA 13:11)  
(Waves)

BROVikov, I.S.

Functions of the distribution of wave heights in case of the presence  
of different wave types. Trudy GOIN no.50:33-38 '60. (MIRA 13:11)  
(Waves)



BROVIKOV, I.S.

Functions of the distribution of wave elements in shallow waters.  
Trudy GOIN no.50:39-44 '60. (MIRA 13:11)  
(Waves)

BROVIKOV, I.S.

Spectral representation of the energy of wind waves. Meteor.1  
gidrol. no.7:16-21 J1 '61. (MIRA 14:6)  
(Waves)

BROVIKOV, I.S.; STREKALOV, S.S.; KUZ'MIN, V.I.

Theoretical concept of the energy spectrum of wind waves.  
Okeanologiya 2 no.5:822-834 '62. (MIRA 15:11)

1. Morskoy gidrofizicheskiy institut AN USSR.  
(Waves--Spectra)

GRIGORASH, Z.K., kand. fiz.-matem. nauk; BROVIFOV, I.S., doktor  
fiz.-mat. nauk, prof., otv. red.

[Tsunami; annotated bibliography in Russian and foreign  
languages for 1726-1962] TSunami; annotirovannaya biblio-  
grafiya na russkom i inostrannykh iazykakh za 1726-1962 gg.  
Moskva Izd-vo "Nauka," 1964. 109 p. (MIRA 17:8)

1. Akademiya nauk SSSR. Mezhdunarodnyy geofizicheskiy  
komitet.

BROVIKOVA, A.S.; MERTSALOVA, O.B.

The latitudinal mean quadratic deviation of the temperature of  
the free atmosphere over the northern hemisphere. Trudy NIIAK  
no.30:133-145 '65. (MIRA 18:12)

SOV/91-58-3-9/28

AUTHORS: Brovin, F.G. and Klyunin, A.N., Engineers

TITLE: Locating the Air Leakage Spots in the VPT-25-3 Turbines (Vyyavle-  
niye mest prisosa vozdukna u turbiny VPT-25-3) Exchange of  
Experience (Obmen opytom)

PERIODICAL: Energetik, 1958, Nr 3, p 14 (USSR)

ABSTRACT: The authors praise as useful the recommendations published by  
Engineer Ye.A. Veselov in "Energetik", 1956, Nr 2, concerning  
the detection of air-intake spots in the steam-turbine system.  
He concisely describes and illustrates another method, which  
helps to find such air-intake spots in the steam ejector and  
piping which were not detected previously.  
There is 1 diagram.

Card 1/1

BROVIN, I.K., inzh.

Universal mechanized hydraulic drill. Mekh.sil'.hosp. 11  
no.3:15 Mr '60. (MIRA 13:6)  
(Drilling and boring machinery)

BROVIN, I.K.

Feed mixer and distributor. Mekh. sil'. hosp. 11 no.11:13-14 N '60.  
(MIRA 13:11)

1. Glavnyy inzh. Khersonskogo oblastnogo upravleniya sovkhovov.  
(Farm mechanization) (Feeding)



BROVIN, I.K.

Movable water heater. Mekh. sil'. hosp. 12 no. 2:29 F '61.  
(MIRA 14:4)

1. Glavnyy inzh. Khersonskogo oblupravleniya sovkhozov.  
(Water heaters)

PLIYEV, T.N.; LIZOGUB, A.P.; LEBEDEV, Ye.V.; BROVIN, I.L.

Quantitative determination of aromatic hydrocarbons using infrared spectroscopy. Neft. i gaz. prom. no.4:46-48 O-D '64  
(MIRA 18:2)

ACC NR: AP5028540

SOURCE CODE: UR/0286/65/000/020/0140/0141

AUTHORS: Brovin, I. Ye.; Reshetnikov, A. I.; Grennaus, M. A.; Sigal, M. S.; Sidel'skiy, D. A.

ORG: none

TITLE: Device for filling jars with a product. Class 81, No. 175868

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 140-141

TOPIC TAGS: food product machinery, food technology, food sanitation

ABSTRACT: This Author Certificate presents a device for filling jars, containing a loading bin, a product-metering device with pistons, and a mechanism for supplying empty jars and removing filled jars. To use it for packaging of sauerkraut, the metering device consists of a cylindrical body which rotates around a vertical axis and which has slots with metering cylinders located uniformly around its perimeter. These metering cylinders consist of two half-cylinders, one of which is pressed into the slot while the other is connected to the carriage with the help of a spring-loaded lever with a roller at its free end. This roller interacts with a regulating template to move the half-cylinder into the slots. A curved cut-off knife is also provided. To separate the sauerkraut from the brine and to feed it to the metering cylinders, a second feature of the device provides a scraping conveyor located under the bin with a comb-like unloader, an inclined belt conveyor with an underpan for

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UDC: 664.843.974.2.036.532

ACC NR: AP5028540

collecting the brine, and paddle-type loaders. The bin is equipped with a vibrator. To meter brine into the jars, a third feature provides a well-known rotary type liquid loader. To provide constant product delivery by the paddle loader, a spring-loaded diaphragm is located in the loader exit pipe. This diaphragm is connected to a rod which acts through a rheostat on the driving mechanism changing the conveyor and paddle feeder speeds.

SUB CODE: 13, 06/ SUBM DATE: 05Jul61/

OC  
Card 2/2

BROVIN, R.

How to improve the organization of accounting for workers' wages  
in auxiliary plant shops, Sots.trud no.3:136-137 Mr '59.  
(MIRA 13:3)

1. Kontrol'nyy normirovshchik Sol'vychegodskogo vagonnogo  
uchastka Pechorskoy zheleznoy dorogi.  
(Pechora--Railroads--Salaries, pensions, etc.)

OLEFIRENKO, V.; D'YACHENKO, M.; KACHAN, L.; BROVIN, S. (Gor'kiy);  
SOKOLOV, A. (Sverdlovsk); LYUBARSKIY, S. (g.Odessa);  
KARAS', P. (g.Odessa); BAKAY, P.

Letters and correspondence. Sov. profsoiuzy 17 no.23:39-40  
D '61. (MIRA 14:12)

1. Predsedatel' Azovskogo gorkoma profsoyuza rabotnikov  
gosuchrezhdeniy (for Olefirenko). 2. Instruktor Rostovskogo  
obkoma profsoyuza rabotnikov gosuchrezhdeniy (for D'yachenko).  
3. Neshtatnyy korrespondent zhurnala "Sovetskiye profsoyuzy",  
g. Vitebsk (for Kachan). 4. Predsedatel' komissii okhrany  
truda Simferopol'skogo kozhevenno-obuvnogo kombinata imeni  
Dzerzhinskogo (for Bakay).  
(Trade unions) (Community centers)  
(Simferopol--Shoe industry--Hygienic aspects)

BROVIN, S.

One plus one. Sov.profssoiuzy 18 no.23:33 D '62.

(MIRA 15:12)

1. Predsedatel' kult'komissii komiteta professional'nogo soyuza  
instrumental'no-shtampovogo korpusa avtozavoda, g. Gork'iy.  
(Gorkiy—Amateur art activities)  
(Gorkiy—Automobile industry workers)

3400 ... .., 1904.

Investigating the parameters of a four-link mechanism with a swinging cylinder. Stroi. i dor. mash. 9 no.1:22-23 Ja '64. (USRA 18:7)



AUTHOR: Brovin, V.K.

13-11-4 13/17

TITLE: The Use of Sandstone as Refractory Material in the Peoples Republic of China (Primeneniye peschanika v kachestve ogneporov v Kitayskoy narodnoy Respublike)

PERIODICAL: Ogneupory, 1958, Nr 4, pp. 188-191 (USSR)

ABSTRACT: Li Tszunlen, Syun Suan-si, Syan Zhu-sen, Go-Tsu-chyao and Yan May assisted in collecting material. Sandstone is used because the place where raw material is found is near, as well as owing to its low cost and high quality. This article contains a report concerning the experience gathered by the Metallurgical Plant at Daye, which has been using sandstone for lining cupola furnaces and converters since 1950. The chemical composition of sandstones from the Daye Region is given in table 1. The Daye Plant uses sandstone products found at Pao-An'. Its physical and mechanical properties are given in table 2. The sandstone is on the surface of the earth and is obtained by blasting. No work of uncovering was carried out. The sandstone was taken over by the works on the basis of technical conditions prescribing both the chemical

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The Use of Sandstone as Refractory Material  
in the Peoples' Republic of China

131-58-4-13/17

composition and the raw measurements. Fig. 1 shows the types produced for the lining of cupola furnaces and their dimensions may be seen from table 3. Fig. 2 shows the scheme of the cupola furnace of the Dage Plant. For purposes of lining also used products are employed in the converter. For bricking up a mortar composed of sand and clay is used. The composition of layers is given in table 4. Further, the melting regime is described. The composition of cast iron and slag after smelting in the cupola furnace is given in tables 5 and 6, and the latter, in addition, contains data concerning the durability of the sandstone lining. The durability of sandstone converter linings is 9 ~ 10 hours. Table 7 contains a comparison between fire clay and sandstone durability.

Conclusions:

- 1.) The durability of sandstone products in a cupola furnace is twice as great as that of fire clay bricks.
- 2.) Production of sandstone products is carried out by mechanical working only.

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The Use of Sandstone as Refractory Material  
in the Peoples' Republic of China

131-58-4-13/17

- 3.) Sandstone products are made in greater dimensions than fire clay bricks (GOST 3272-46), which increases the quality of the lining and accelerates the process of bricking up.
- 4.) The mechanical properties of the products after being used are better than those of raw sandstone. For the lining of cupola furnaces it is possible to use the worked-off bricks of the converter.

There are 2 figures, and 7 tables.

Card 3/3

BROVINA, I.I.

A case of bilateral subcutaneous trauma of the kidneys. Urologia 23  
no.4:52-54 J1-Ag '58 (MIRA 11:8)

1. Iz urologicheskoy kliniki (zav. - prof. A.Ya. Abramyan) Moskovskogo  
oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta im.  
M.F. Vladimirovskogo.

(KIDNEYS, wds & inj.

bilateral subcutaneous trauma (Rus))

"APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000307020019-9

APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000307020019-9"

BONDAREVSKAYA, Ye.A.; BROVINA, M.Yu.; URYUTINA, L.A.

Notriding parts made of aluminum-free steel. Metallurgical. 5 pages.  
obr. met. no. 11:28-29 N '65. (M 11:28-29)

I. Ryazanskiy stankostroitel'nyy zavod.

PROVIN, N.M., 6-nd Med Sci--(disc) "Esterin pland i ~~konstr~~ and in  
Anten animals." Kharkov, 1957. 12 pp (Kharkov Med Inst), 200 copies  
(M, 31-58, 106)

- 95 -

ROSHCHIN, K.A.

ROSHCHIN, K.A., inzhener; BROVKIN, A.A., inzhener.

Control loads for testing operational cranes for Hydroelectric Power  
Stations. Gidr.stroi. 25 no.11:50-51 D '56. (MIRA 10:1)  
(Cranes, derricks, etc)



S/100/60/000/003/003/003  
A053/A026

AUTHORS: Amstislavskiy, A.Z.; Brovkin, A.A.; Roshchin, K.A.; Engineers

TITLE: Crane for Building Ramps and Bridges

PERIODICAL: Mekhanizatsiya Stroitel'stva, 1960, No. 3, pp. 17 - 19

TEXT: The article describes the original design of a special crane for the assembly of large ramps, bridges, etc, by army engineer method, with the crane using the assembled structure as basis for moving forward and continuing assembly work in front. On the occasion of the building of the Bratskaya Ges (Bratsk Hydroelectric Power Plant) a group of specialists of Gidrostal'proyekt proposed a special 80/30 ton crane, (Patent No. 121924) in which the turning boom is replaced by an extended gantry which, mounted at a certain angle, projects out sufficiently far to operate the hoisting mechanism, which consists of a rigid suspension arm over which is fixed a suspension bracket with a triple hoisting tackle, suspended by means of two side-pulley blocks to the upper cross bar of the inclined gantry. By simultaneous change in length of the side-pulley blocks the transversal movement of the suspension bracket and, consequently, of the suspended load is brought about. The carrying part of the body of the crane is made up by 2 girders of a

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Crane for Building Ramps and Bridges

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30 m span, 7.6 m high, joined at the top by cross bars and diagonal ties. The cross section of the body represents a gantry with a span of 18.72 m and 10.17 m high, which permits 4 RR tracks to pass underneath. The stands of the body are mounted on wheels, by which the crane moves. On top the stands are joined by cross bars, thus forming solid frames. The gantry of the main lift (80 ton capacity) consists of an inclined frame, 19.62 m high and 18.72 m wide, hinged at the lower end to the cantilever fixed at the end of the body and held at the top by 2 chain ties. The angle of incline of the main lift gantry is  $30^\circ$  which brings the point of suspension to a distance of 27 m from the axis of the front bogies. The gantry of the auxiliary lift (30 ton capacity) constitutes a similar frame 26.05 m high with 2 tie beams and a cross bar at the top. The angle of incline of this gantry is  $36^\circ$  which places the point of suspension at a distance of 49 m. The mechanism of the main lift and of the transversal movement of load consists of 3 pulley blocks of 13 threads and 80-ton hoisting capacity each. Two blocks serve for the transversal movement and one for the load lift. In order to synchronize the work of the side-pulley blocks, the threads are running over one drum divided in two parts, driven by one 8.5-ton capstan. The mechanism of the auxiliary lift is of the same design as that of the main lift with the only difference that the thread of the load lifting block passes through two 5-ton capstans, in order to increase

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S/100/60/000/003/003/003  
A053/A026

Crane for Building Ramps and Bridges

the speed for covering greater distance. The counterweight (220 tons) consists of 8 reinforced concrete slabs 750 x 750 mm and 20 m long. The moving mechanism of the crane consists of 4 twin-wheel bogies equipped with electric driving gear, the track is 18.7 m wide. One of the great advantages of this crane consists in the transversal movement of the load which takes place on a vertical plane all the way, perpendicularly to the longitudinal axis of the ramp under construction. The described crane, which has been produced by the Dneprovskiy mekhanicheskiy zavod (Dneprovsk. Mechanical Plant) in Zaporozh'ye is used in the construction of a concrete delivering ramp of the Bratsk Hydroelectrical Power Plant having sectional spans of 44 m and using structural elements weighing up to 80 tons. The technical characteristics of the crane are given as follows: Lifting capacity of main lift at a distance of 27 m - 80 tons; lifting capacity of auxiliary lift at 49 m distance - 30 tons; maximum height of lift of main suspension bracket - 6 m above rail level; maximum depth of descent of main suspension bracket - 15 m below rail level; lifting of suspension bracket 1 m/min; speed of transversal movement of main suspension bracket - 1.5 m/min; The same data for the auxiliary suspension bracket are: maximum lift over rail level - 15 m; maximum depth of descent - 80 m; speed of lift 7m/min; speed of transversal movement - 5.5 m/min. Speed of crane movement 9.15 m/min; full weight of crane 571 tons. There are 1

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Crane for Building Ramps and Bridges

figure, 2 photographs and 1 table.

**Figure 1:** System of special crane

a) hoisting tackles of auxiliary lift b) hoisting tackles of main lift 1) side pulley blocks, 2) suspension arm, 3) suspension bracket with triple hoisting tackle. c) cross section of body

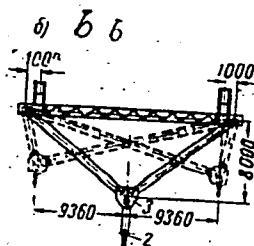
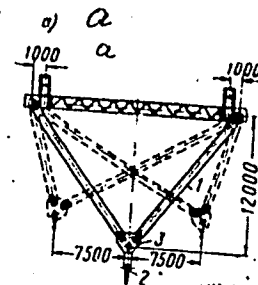
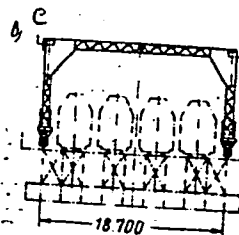


Рис. 1. Схема специального монтажного крана

а) полиспасты вспомогательного подъема; б) полиспасты главного подъема; в) поперечный разрез несущей конструкции. 1—боковые полиспасты; 2—групирующая подвеска; 3—трехблочная обойма



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